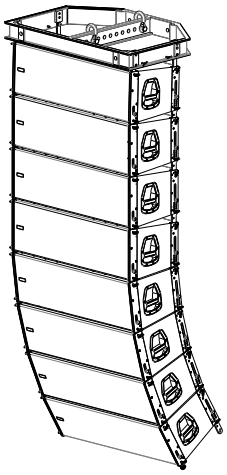
LX-V12

USER MANUAL

V.12.12



LYNX Pro Audio S.L.
Valencia, Spain - www.lynxproaudio.com - info@lynxproaudio.com

- Class D Powered (tri-amplified)
- Integrated Digital Processing
- Internal temperature control
- Electronic protection
- Digital inclinometer system
- High quality components
- Online monitoring available

LX-V12 line array cabinet

Manufacturer

LYNX Pro Audio S.L.
Calle 7 - Pol. Ind. Picassent
E-46220 Picassent (Valencia)

CB SCHEME, IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT

CE CERTIFICACTION, EUROPEAN PRODUCT

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Before starting to use this device, please read this instruction manual carefully.
Keep these instructions in the place where the equipment will be used and with easy access to them.

- Electrical appliance.
The exclamation mark within a triangle identifies the presence of electricity. Use the system carefully without wet hands or feet. Avoid installing the speaker in wet or excesivelly humid places. Regularly check the condition of the cables and make sure these are not being walked on or pinched. Connect the speaker to bipolar, earthed mains. The mains plug must be connected to the appropriate protection (fuse or breaker). Connection to any other type of mains could result in an electrical shock and violate local electrical codes. DO NOT CONNECT OR DISCONNECT THE AC POWER CONNECTORS UNDER LOAD.

- Heavy equipment.
Apply back protection when using the system. Avoid loading and unloading at heights.

- Electrical shock risk.
The diagonal mark within a triangle identifies the presence of dangerous voltage. Do not open or handle the interior of the box. These parts are not to be adjusted by the user. For maintenance and/or repair please go to an authorized service centre. In order to reduce the risk of electric shock, disconnect from AC before plug in or unplugging Audio signal cables. Reconnect to AC only if all signal connections are made and secured. Never manipulate the ground type plug provided. The AC mains plugs should always remain accessible for operation. Unplug the loudspeaker during storms or when it's being used for a long time.

- Hearing damage risk.
These systems can reproduce large quantities of sound pressure which can damage hearing. Take precautions if you are going to be near them for extended amounts of time and do not get too close.

- Hanging – Flying.
Do not hang the cabinets from the handles or from any other part other than the designated hanging point. When flying this system please observe the technical and "Rainbow" software data carefully. Never exceed the maximum safe working loads or ignore the instructions included within this manual. Use Only flying accessories provided by Lynx Pro Audio S.L.
Rigging must be always carried out by professionals.

- Delicate Material.
Please ensure no foreign object or water enters the speaker. Do not place material that contains liquid on or near the unit. Only clean the unit with dry cloths. Do not use solvents.

-Overheating – Fire risk.
To reduce the risk of the speaker over heating, avoid direct contact with sunlight. Avoid placing the unit close to heat inducing objects such as radiators. Do not cover the equipment in use and do not block any ventilation openings. Do not put naked flame, such as lighted candles, close or on top of the unit.

- Electromagnetic and interferente emissions.
Avoid placing objects which through electromagnetic waves can damage the unit, such as mobile phones, lap tops, magnetic strip cards etc. This system complies with normatives

EN 55103-1 (1)
EN 55103-2 (2)

(1) This device may not cause harmful interferences.
(2) This device may receive interference including interferences that may cause undesired working.

-IMPORTANT NOTE.
This Equipment must be used in accordance with these instructions and by trained professional personnel only.This equipment should not be used in places with extreme tropical climates. Don't expose this apparatus to extreme humidity and or temperature values.

INTRODUCTION

To facilitate, correct and reliable use of the Lynx V12 Line Array we have designed this instruction manual. Please read the manual carefully before proceeding to install the system.

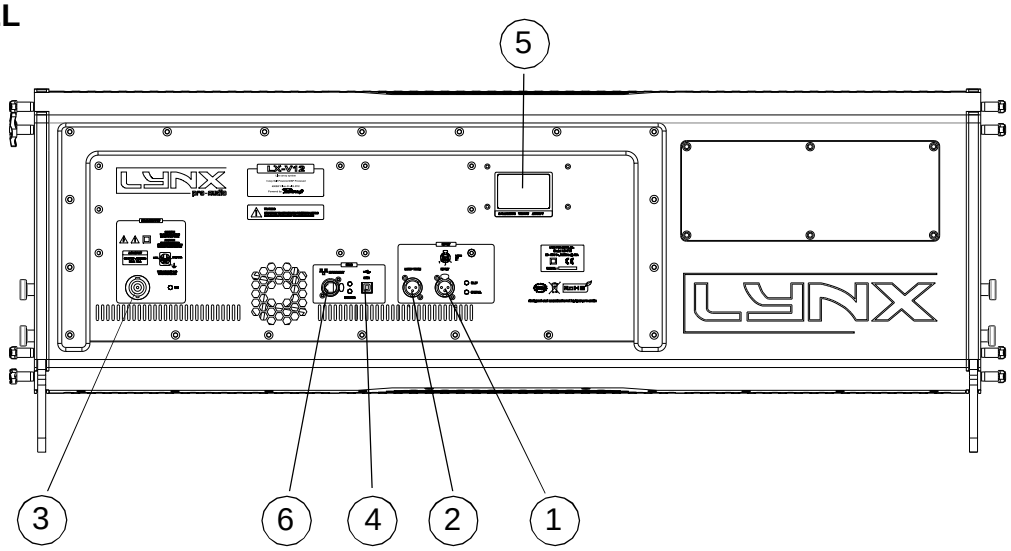
When flying this system please observe the technical and “Rainbow” software data carefully. Never exceed the maximum safe working loads or ignore the instructions included within this manual.

SPECIFICATIONS:

FREQUENCY RANGE	45Hz -20KHz
FREQUENCY RESPONSE	55Hz- 18KHz ± 3dB
HORIZONTAL COVERAGE	100º
VERTICAL COVERAGE	According to Array configuration
MAX SPL	140 dB/ 143dB peak 1w@ 1m
TRANSDUCERS	LF: 2 x 12" Neodimium, Interleaved Voice coil MF: 4 x 6.5" Neodimium, glass fiber cone HF: 2 x 1.4" Driver Neodimium + Wave Guide
POWER AMPLIFIER	4000W Class D with Switching Power supply power factor correction PFC technology LF: 2 x 1200W Class D MF: 1 x 1000W Class D HF: 1 x 600W Class D
DSP	Internal LYNX processor DSPB-24® with FIR filters
CABINET ADJUSTMENT	Back panel LCD screen
INTERNAL CONTROLS	Cabinet Angle detection / Temperature sensor Fan Speed control
SIGNAL CONNECTION	NEUTRIK connectors XLR Male Input XLR Female Loop Thru
CONTROL CONNECTIONS	USB (DSP programming), ETHERNET* (Online Monitoring System OMS®)
AC POWER	85v / 270v selectable. 50/60 Hz 3A
AC CONECTIONS	32A NEUTRIK POWERCON NAC3FC-HC
CONSTRUCTION	15 mm Premium Birch plywood
FINISH	High resistant water-based black paint
FRONT DESIGN	Antirush black metal grille
DIMENSIONS (H x W x D)	371 x 1175 x 505 mm 371 x 1250 x 505 mm with ball-pins
WEIGHT	74 Kg (163 lbs)
INTERCABINET ANGLE ADJUSTMENT	0º/ 0,5º/ 1º/ 1,5º/ 2º/ 2,5º/ 3º/ 3,5º/ 4º/ 4,5º/ 5º/ 5,5º/ 6º/ 6,5º/ 7º/ 7,5º/ 8º/ 8,5º
RIGGING	Integrated flying plates

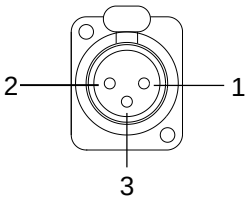
LX-V12 BACK PANEL

1.- SIGNAL INPUT
2.- SIGNAL LINK
3.- AC INPUT
4.- USB
5.- DSP CONTROL
6.- ETHERNET OPTION

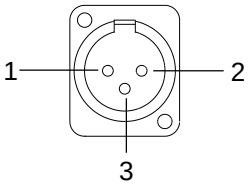


CONNECTORS AND CONNECTIONS

XLR SOCKET CONNECTORS

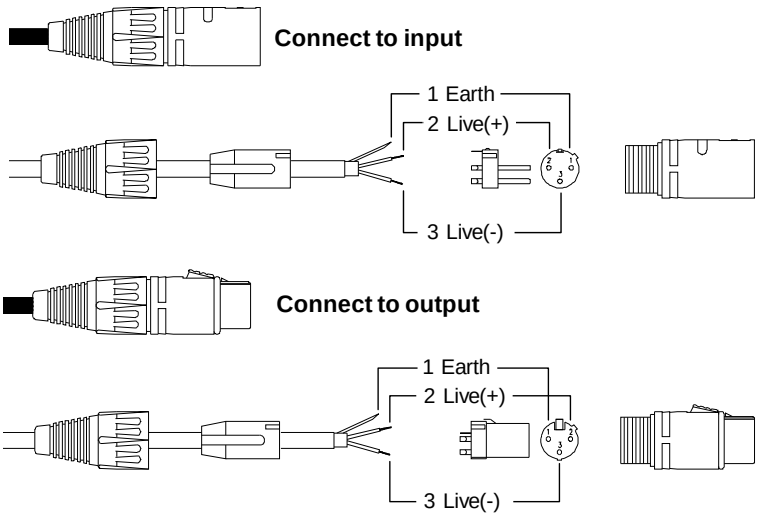


INPUTS
1.- EARTH
2.- LIVE (+)
3.- LIVE (-)

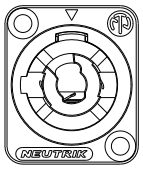


OUTPUTS
1.- EARTH
2.- LIVE (+)
3.- LIVE (-)

XLR AEREAL CONNECTORS



SOCKET POWERCON CONNECTORS



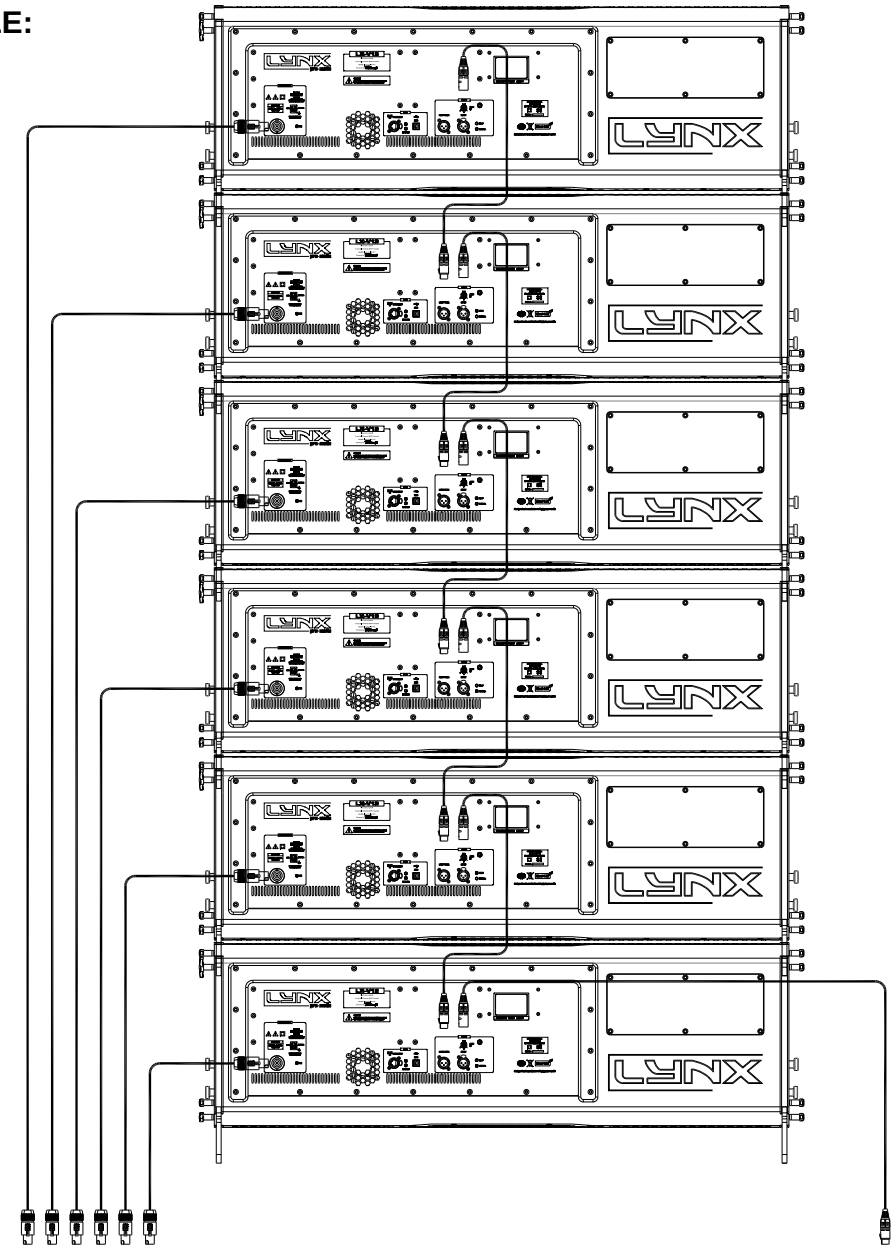
L - Line

N - Neutral

- Earth

- **CAUTION**: DO NOT CONNECT OR DISCONNECT THE AC POWER CONNECTORS UNDER LOAD.

CONNECTION EXAMPLE:
6 LX-V12 CABINETS



Connect to AC output

Connect to signal input

Note: Finite Impulse Response (FIR) filters are used in the signal processing of the LX-V8 cabinet. FIR is a type of digital filter with linear phase characteristics. This frees system designers from the constraints of phase anomalies associated with analogue filters or their digital versions (IIR, Infinite Impulse Response). When properly used, FIR filtering can audibly improve a system's impulse response and reduce crossover interference.

CONFIGURING THE CABINET DSP OPTIONS.

From the LX cabinet's back panel you are able to configure 4 basic internal DSP adjustments:

- Number of cabinets in the array to apply shelving equalization for frequency response correction.
- Air absorption compensation at various "throw" distances.
- Enable or disable the Inclinometer.
- Enable or disable the automatic correction feature.

CONFIGURING THE LINE ARRAY.

Note:
You must apply the desired configuration in each cabinet. This is done via the buttons located on the back panel of the cabinet and requires electrical power to work. For your comfort, we recommend you to do this before flying the array.

On the back panel you will see 3 buttons and an information screen, on which you can read the established parameters and information such as amplification module temperature, cabinet inclination and name of the current preset.

If changes are not made the display will automatically dim to save energy and avoid unnecessary light in situations where light is not wanted. To re-activate the light simply press the OK button.

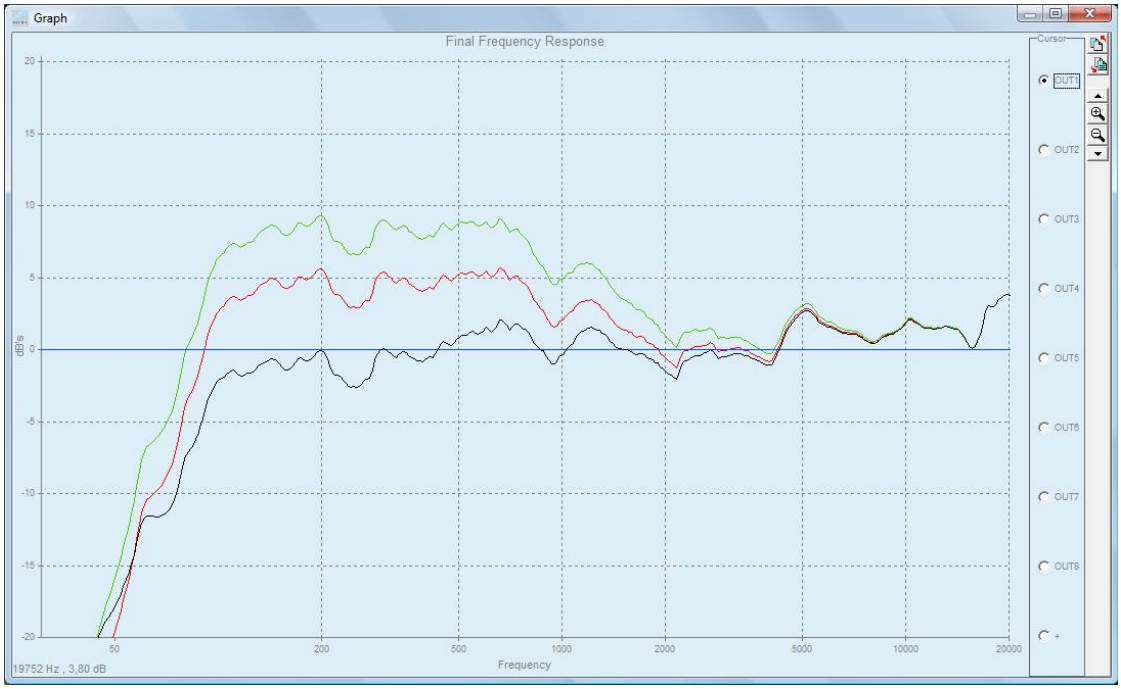
N CABINETS.

With this button you can select the number of cabinets which will make up your array.
By doing this, the DSP will apply a shelving filter in the low and mid range to correct the frequency response and thus ensure that the response maintains flat.

It is known that one of the disadvantages of a line array system is that the low and mid range of frequencies cannot be precisely vertically corrected, whereas high frequency drivers have their own waveguide to do this.

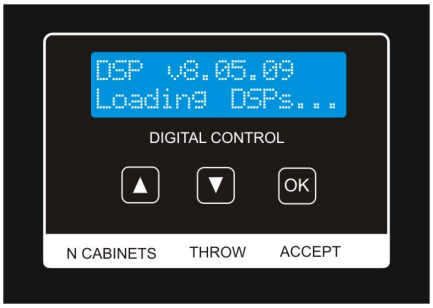
For this reason, you can set up a line array to cover “x” area distance, and you can obtain a directed and controlled high frequency range. However, it will not be the same on the mid and low range, if you stay at one point of the coverage area, you will hear one of the high frequency drivers but you will also be able to listen to the whole low mid speakers, obtaining a decompensated frequency response.

You can see this on the measurements comparing 1,4 and 8 cabinets. In the following picture we show you a simple example with some LX series cabinets (where Black = 1x LX-F6, Red = 4x LX-F6, Green = 8x LX-F6).



The DSP incorporates five of the most common configurations:

4, 6, 8, 10 or 12 cabinets, maintaining the preset of 12 cabinets for larger size arrays. Select the configuration which you believe to be acoustically correct. If you do not wish to carry out any further adjustments, press OK until the progress bar finishes. The display will indicate “Loading DSP”.

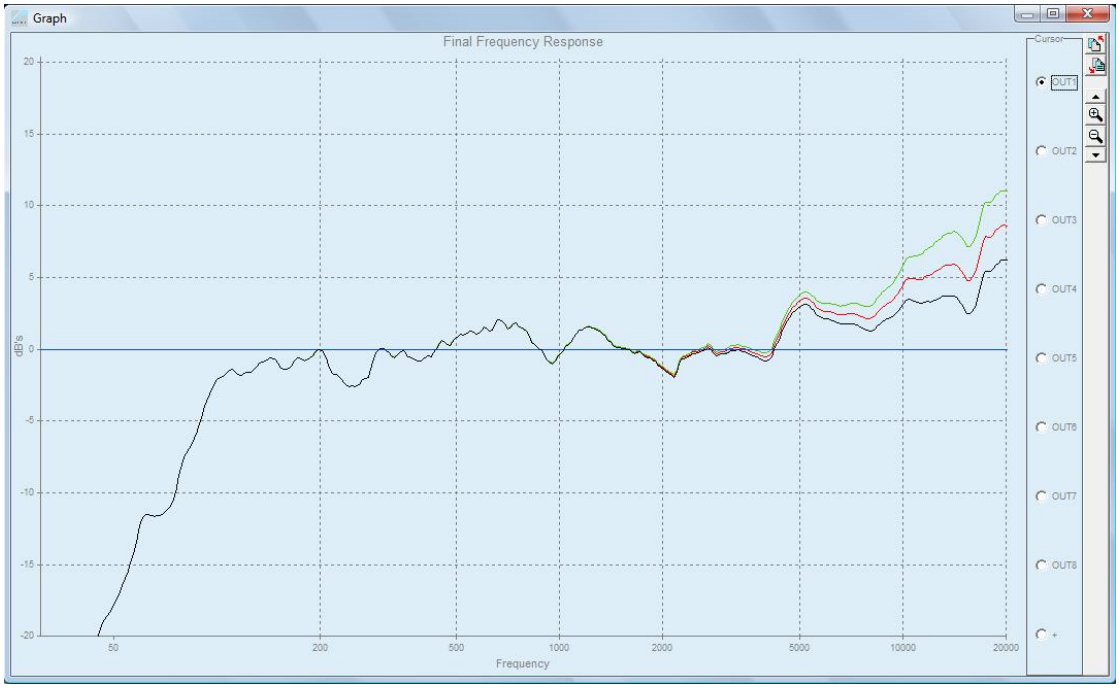


Note:

In case of a power cut, the DSP will save its last configuration when restarted. However, if it was in Auto Mode, it will take the data from the inclinometer and re-calculate the compensation algorithms.

AIR ABSORPTION COMPENSATION

As sound travels over distance, it starts to lose its energy due to atmosphere and physical properties. This varies according to factors such as relative humidity and temperature and is most appreciable with high frequencies. To compensate for this loss the LX cabinets apply special equalization algorithms. This compensation is carried out for 3 types of throw: Short, Mid and Long.

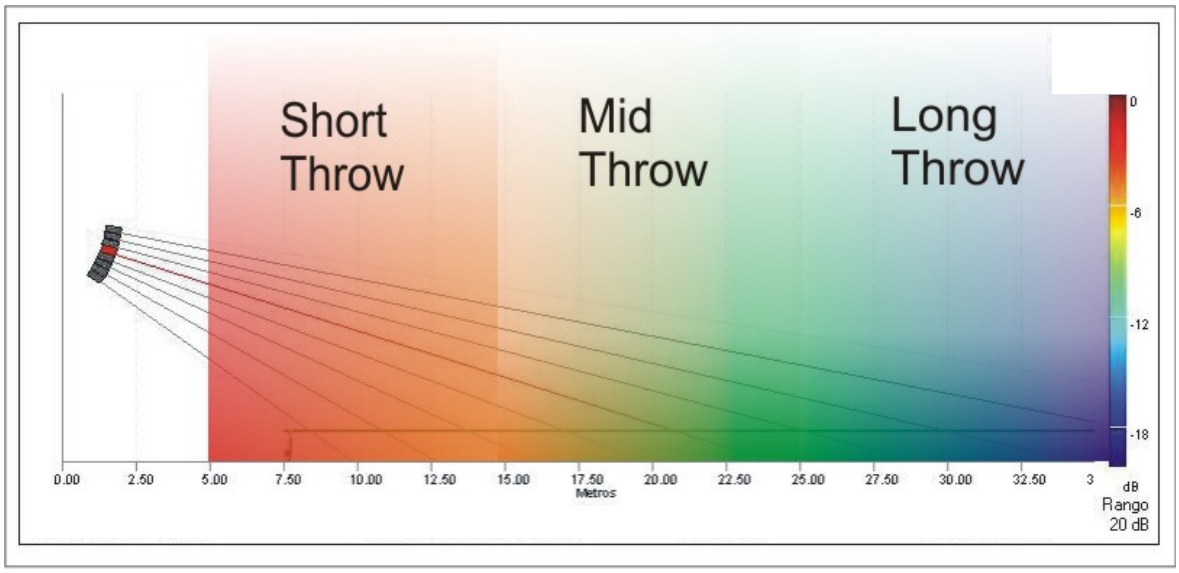


THROW

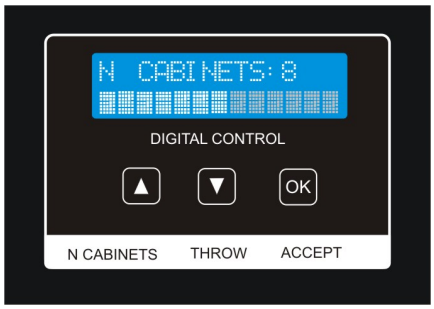
After selecting the number of cabinets, the second button enables you to change the configuration of the throw as follows:

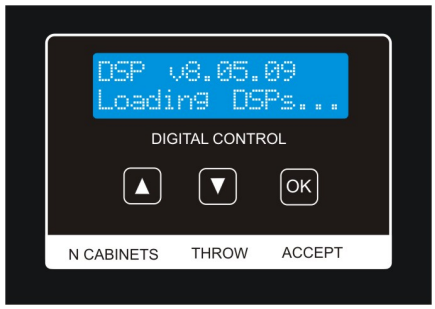
- Short throw (Black)
- Mid throw (Red)
- Long throw (Green)
- Manual (with no correction)
- Auto (Reads the inclinometer reading and depending on the cabinet's inclination this mode will apply the appropriate parameter) Note: This data is only taken on DSP Start up to avoid unexpected equalization changes caused by unnecessary movement of the array. This means that once the cabinets have their final inclination (the array must be lifted, not stacked on the stage) you have to restart the preset in order to apply the necessary EQ for the real inclination of each cabinet. Then you can lift the array completely.

To manual setup from the back panel, separate the coverage area in 3 smaller zones, one closet o the array, one in the middle and one further away trying to ensure they are similar in size. Depending on the size of the array and its angulation you can add or remove cabinets to each zone. Once this is done, enter the type of throw in to each cabinet bearing in mind which area they are targeting.



With classic configurations, the higher cabinets have the task of covering the area furthest away, thus needing the "Long Throw" preset. Remember you must enter this preset in to every cabinet that requires this configuration. Choose the configuration which meets the needs of your installation. If you do not need to make any further changes press OK until the progress bar finishes. The display will indicate "Loading DSP".





MANUAL MODE

By selecting Manual mode, the system does not take in to account the number of boxes or the inclination, and uses the factory equalization parameters, crossover and dynamics. This enables you to manually correct the system with an external processor if the configuration is not common or you desire a different type of adjustment other than that supplied by the factory.

AUTOMATIC MODE

In this mode the cabinet will read the inclinometer information upon Start up and then apply the corresponding preset according to the inclination of the cabinet. This only happens when the cabinet is switched on and will last until the next reading which will be when the power is taken up again. This is done to anticipate movements such as wind causing variations of the inclination and changing the configuration when not desired.
Average values have been taken to detect the angulation and apply different throw presets based on the most typical configurations:

- If the cabinet has between **0º and –13º** The **Long Throw** preset will be applied.
- If the cabinet has between **–13,1º and –21º** The **Mid Throw** preset will be applied.
- If the cabinet has between **–21,1º and –90º** The **Short Throw** preset will be applied.

Note: If positive degree values are detected, the DSP **Long Throw** preset will be applied.

ONLINE CONTROL SYSTEM

Who is it for?

Users of Self powered DSP incorporated Lynx Pro Audio Cabinets where the user has requested the cabinets be supplied with the Ethernet Module kit.

What is it for?

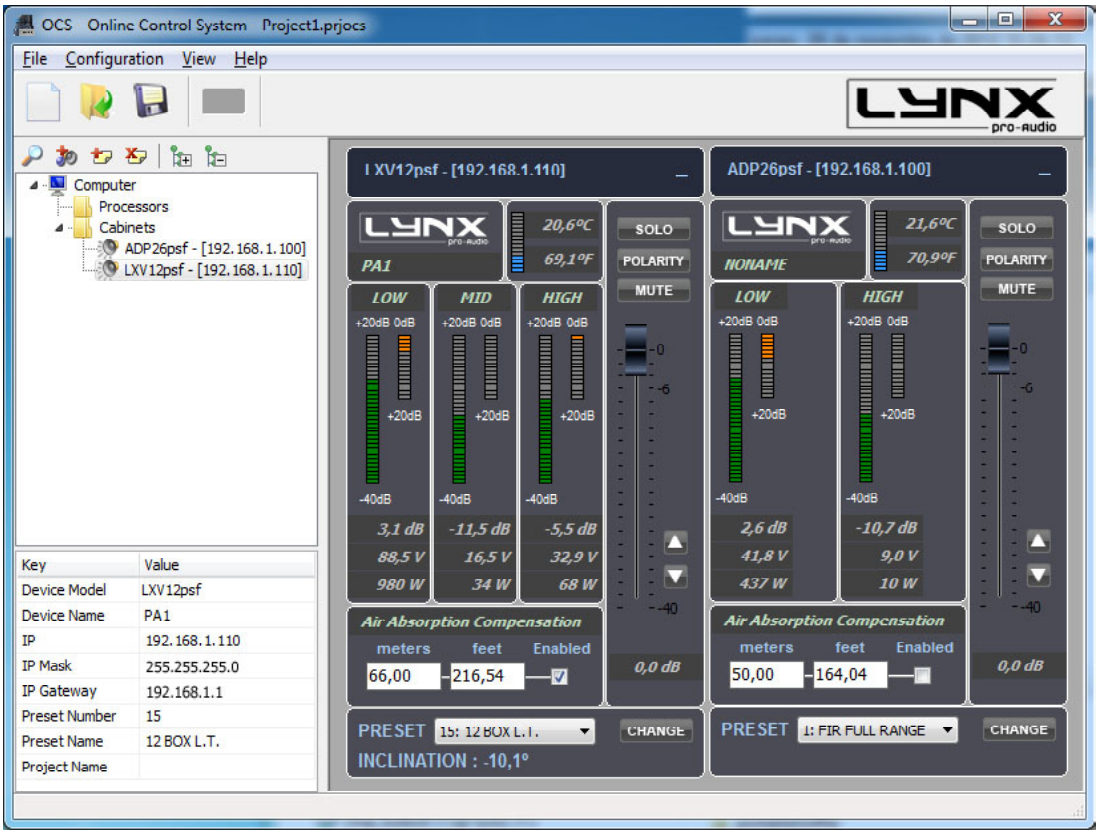
Obtain detailed information of cabinet behaviour and monitor the cabinet/s in real time. You can change the preset, gain, mute and polarity. You can also activate the air absorption compensation and select the «SOLO» mode.

How does it work?

Via Ethernet (cable or wireless). Once installed, the O.C.S. software automatically detects all the cabinets connected to the network and displays them in the O.C.S. window on the users PC.

What does it show?

As well as displaying the cabinet model and IP address the O.C.S will be monitoring in real time and the user will be able to view RMS levels, Input clip, power module temperature, compression levels, air absorption compensation and cabinet angulation.



CONFIGURING ETHERNET TO WORK WITH LX-V12

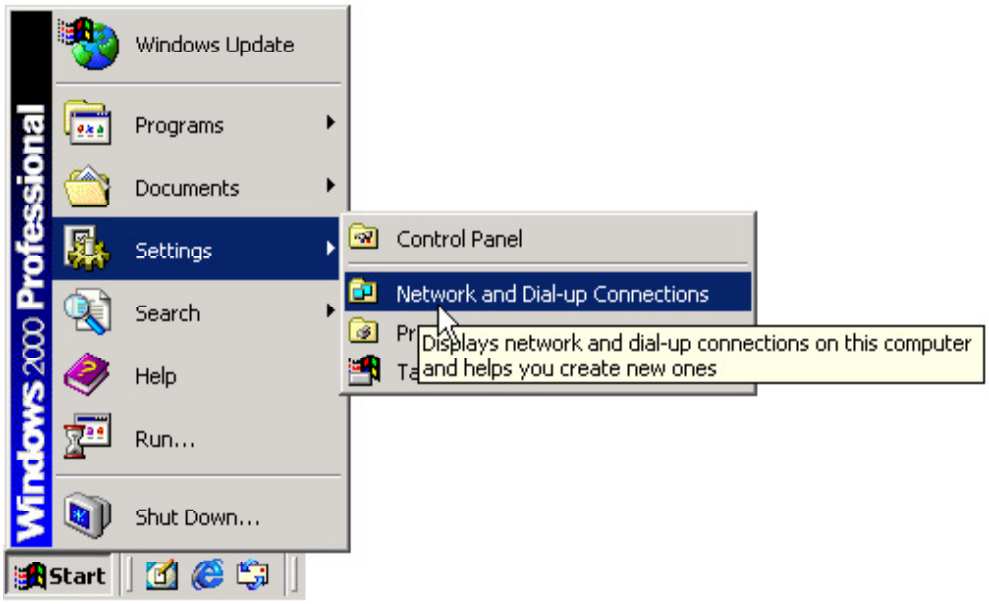
There are two possible ways to connect:

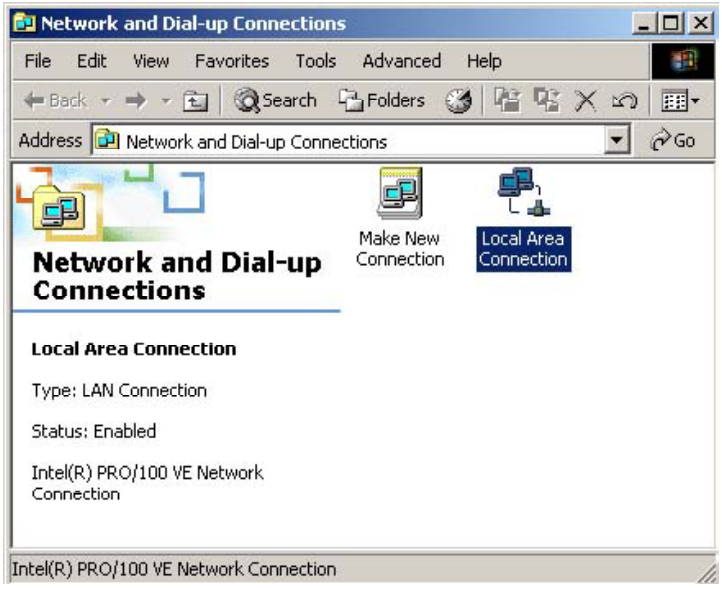
1.- Connecting through an ETHERNET SWITCH/HUB::
- You will need a normal CAT5 Cable.

2.- Connecting through a Wirless ETHERNET.

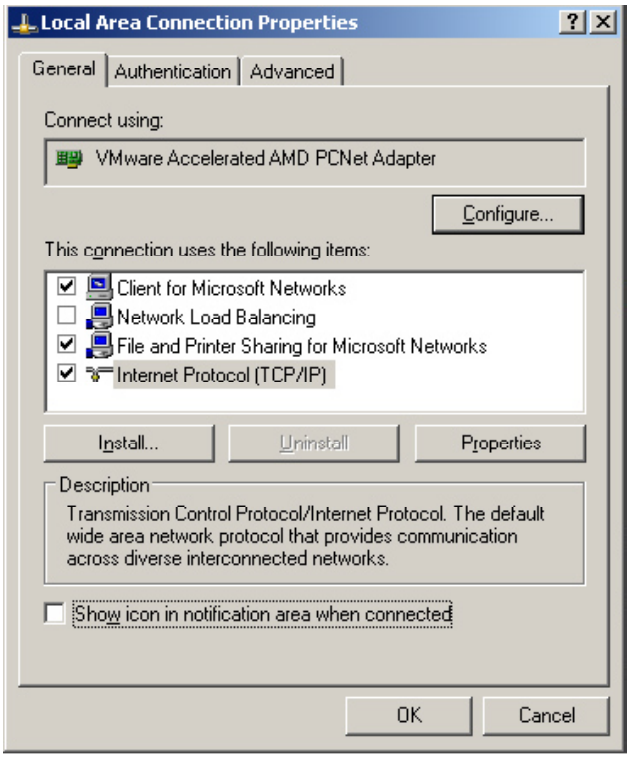
Let us now proceed to configure the Ethernet network, setting the IP address of the computer as static. To do this go to:

START > CONFIGURATION > NETWORK CONFIGURATION

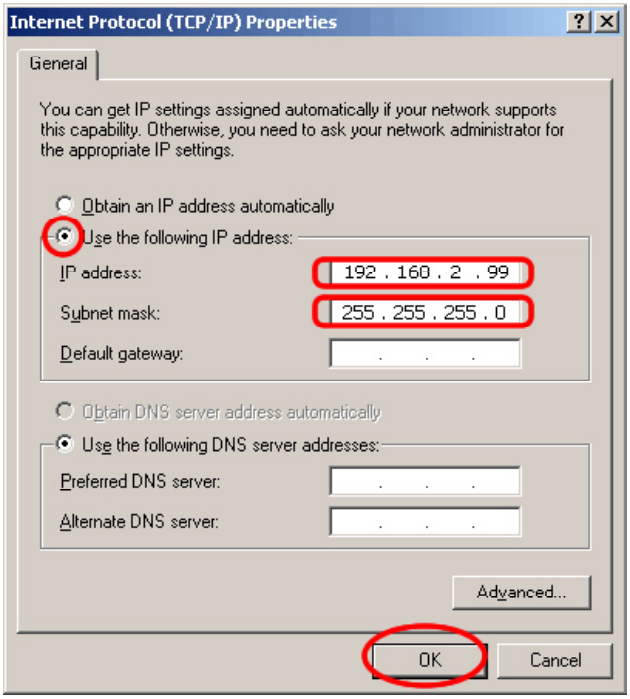




We will launch the properties of "Local Area Connection" by clicking the right mouse button and clicking on properties.



Select "Internet Protocol (TCP / IP)" and click on properties.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 160 . 2 . 99
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Select: "Use next IP Address" And write as you wish, in order to configure your network.

Normally, Ip values will be something like this:

IP Address: 192.168.2.xxx
Subnet Mask: 255.255.255.0

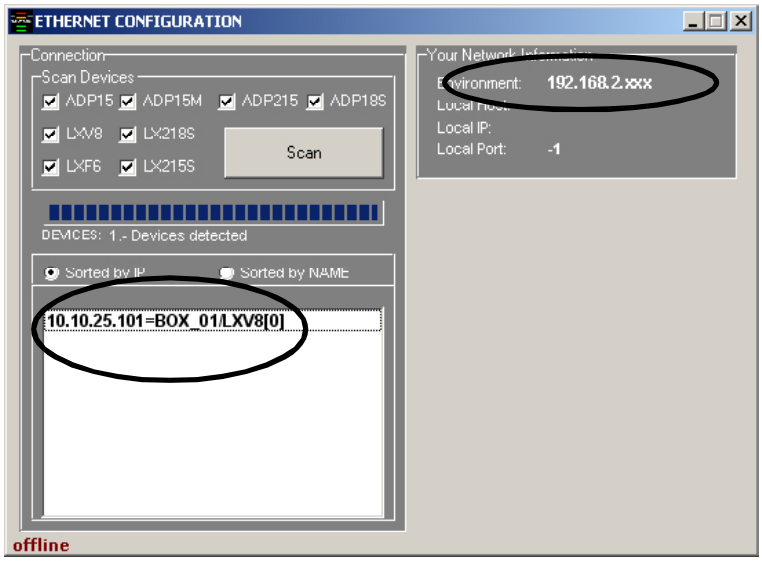
Where xxx will be a number between 1 and 254

Accept to quit the network settings and again to apply them at the next screen. Depending on the Windows Version, you will be asked to reboot or not.

Once the Computer is configured with a static IP proceed to connect to the line array system through the O.M.S. (online monitoring system) software.

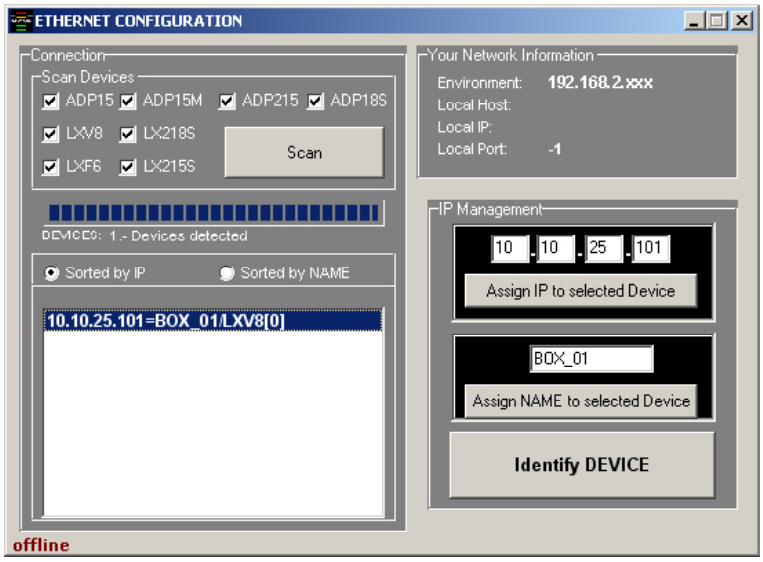
Open the O.M.S Software and from the Initial Screen choose ETHERNET.

It will open a different screen, as follows, there you can see your Network configuration, and the cabinets currently connected.



In this case, we can see that the cabinet do not have the same IP environment as the PC. So, select the cabinet and modify the assigned IP in order to be able to connect to it.

By default, the Cabinet will have this IP 192.168.2.100 (Versions before 2009 could been asigned with IP 10.10.25.101 or IP 192.168.1.100)



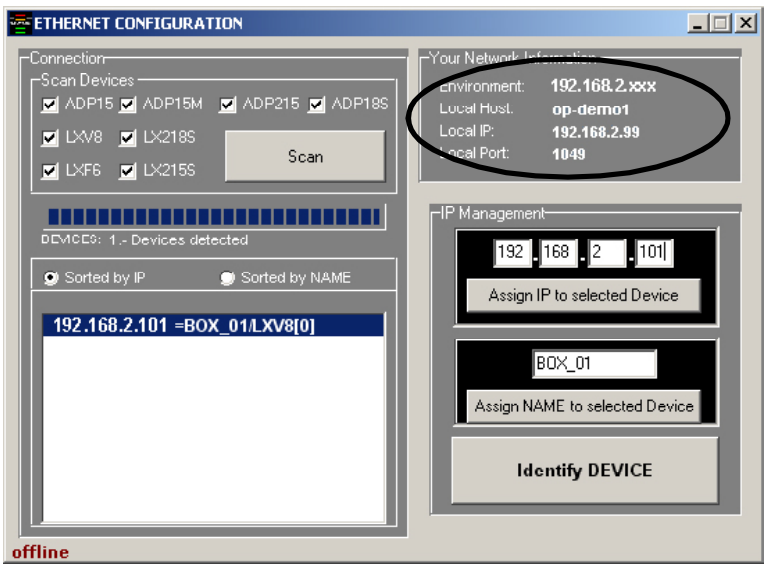
The Network enviroment consists in the first 3 sets of three numbers separated by dots. In order to detect/communicate with the cabinets, the software and the cabinets **must have the same Network settings**.

If it is not in the same environment Windows Profesional (2000, XP, VISTA) will detect it, but is not going to be able to establish connection. In Windows Home, the processor is not going to be detected until the same enviroment is applied.

In order to **change the IP** settings to have the same configuration as the PC, we can change the IP address of the cabinets by clicking in the *Assign IP to select Device* button after writing in the box above the desired data. Remember there cannot be two devices with exactly the same IP address, the last set of three numbers has to be different and unique to each one of the devices.

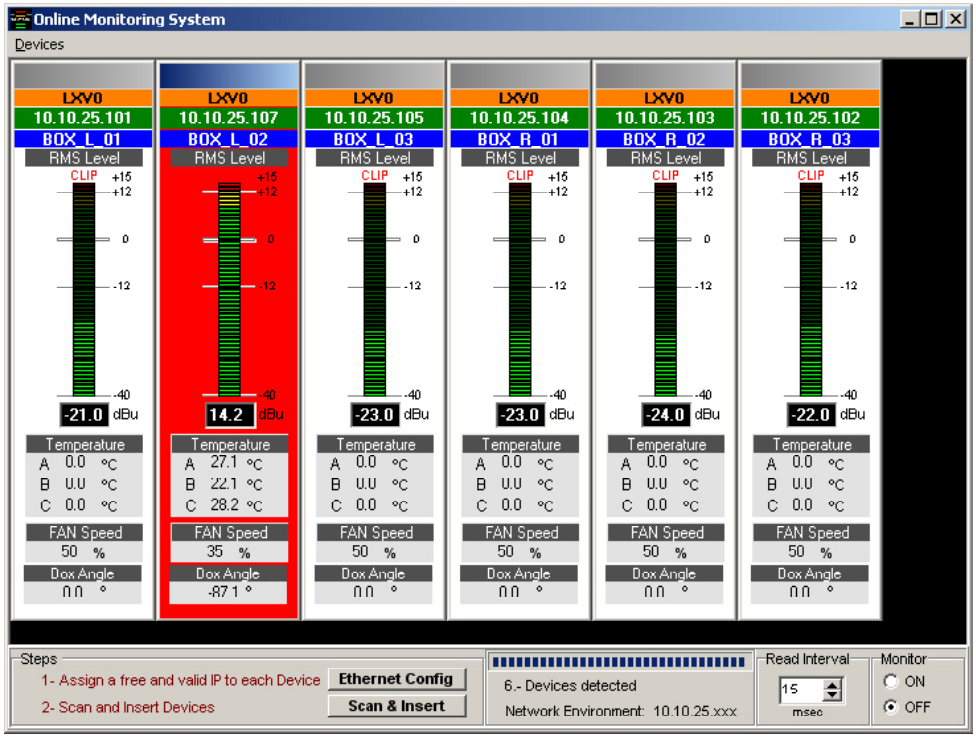
for example, write 192.168.2.101 and click "***Assign IP to select Device***" button.

The OMS software will send the new IP to the cabinet and it will scan the network again showing the same information as before, plus more information such as Pc name, IP address and Port in which the communication is established.



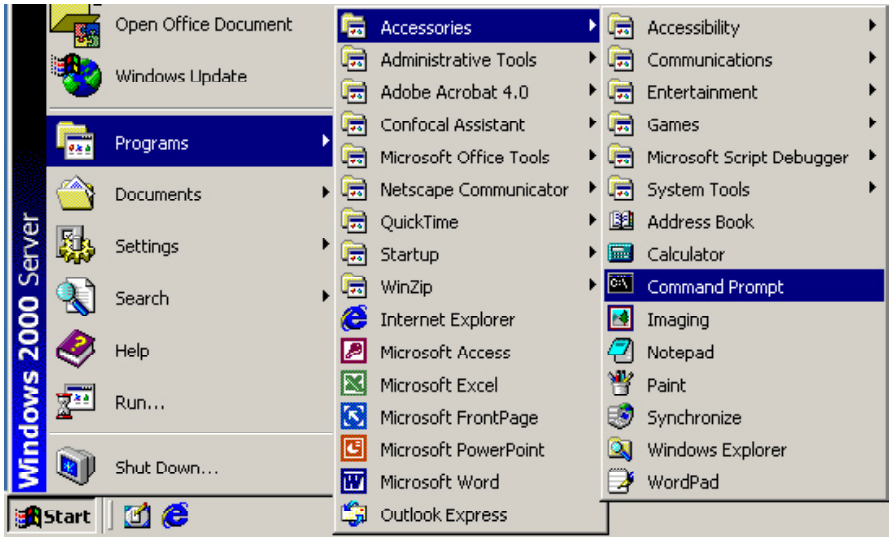
When we have a lot of cabinets connected in the network we can use the button **"Identify Device"** to see which box is selected (two activity LEDS will blink for one second). With that information then we can **"*Change NAME*"** assigned to this Cabinet by clicking in the **"*Assign NAME to select Device*"** button after writing in the box above the desired Name.
We can sort all the detected cabinets by Name or IP Address.

Returning to the main screen, we can see each cabinet showing: Model, IP address and Name, as well as monitoring: RMS Level, Input Clip, Cabinet angulation, amplifier temperature and fan speed.

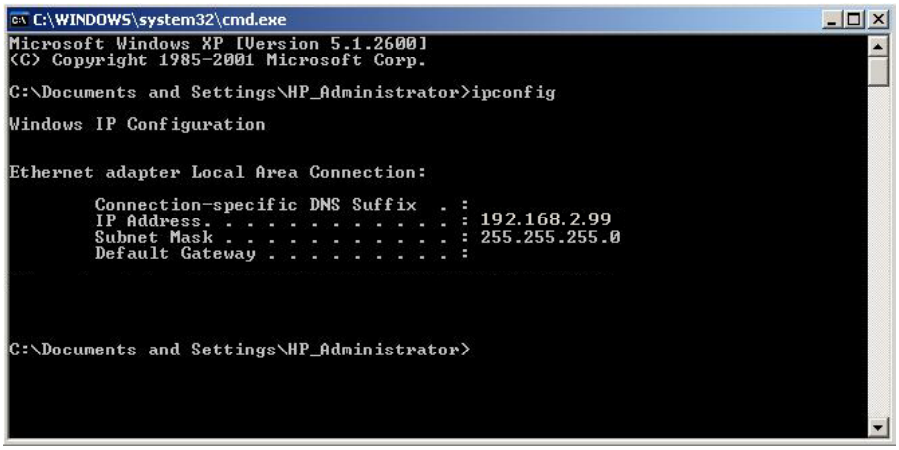


If you need to know the PC Network settings go to:

START > ALL PROGRAMS > ACCESSORIES > Command Prompt

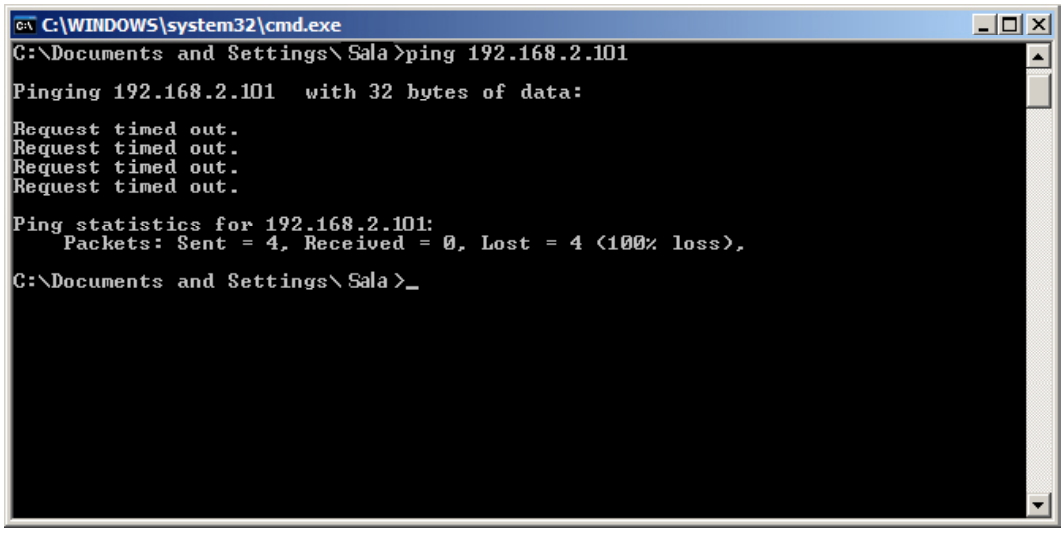


It will open the cmd.exe from where you can type the IPCONFIG command (ipconfig + Enter), which will show your actual IP settings.

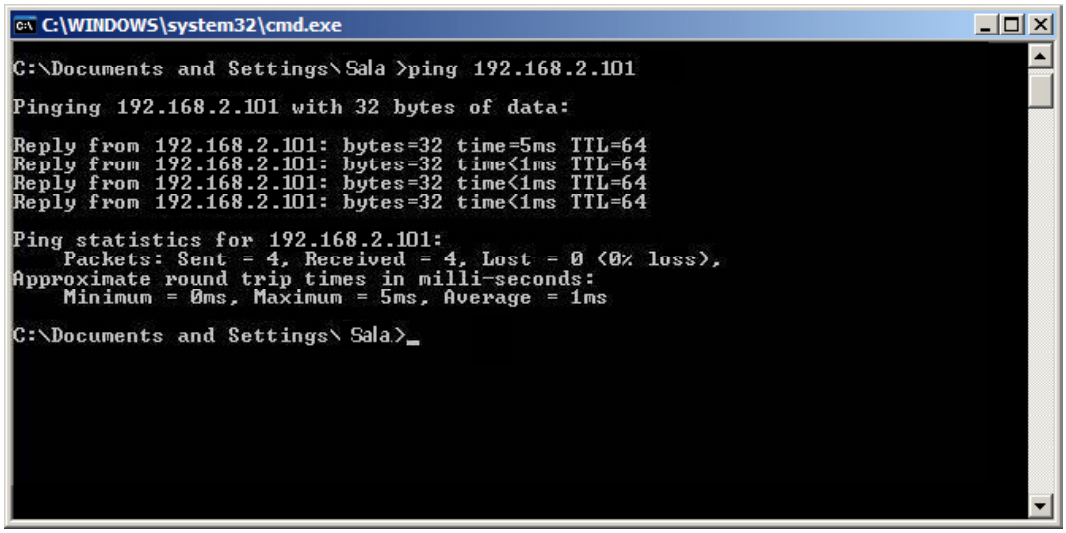

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\HP_Administrator>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 192.168.2.99
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
C:\Documents and Settings\HP_Administrator>

Here we can see that this PC has IP set as 192.168.2.99.

You can also use the command promt to know if an IP is already in use by another device. In this case type "ping IP" (ping 192.168.2.xxx) and press enter. If there is no device with this IP you will see the following information:


C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\Sala>ping 192.168.2.101
Pinging 192.168.2.101 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.2.101:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\Documents and Settings\Sala>_

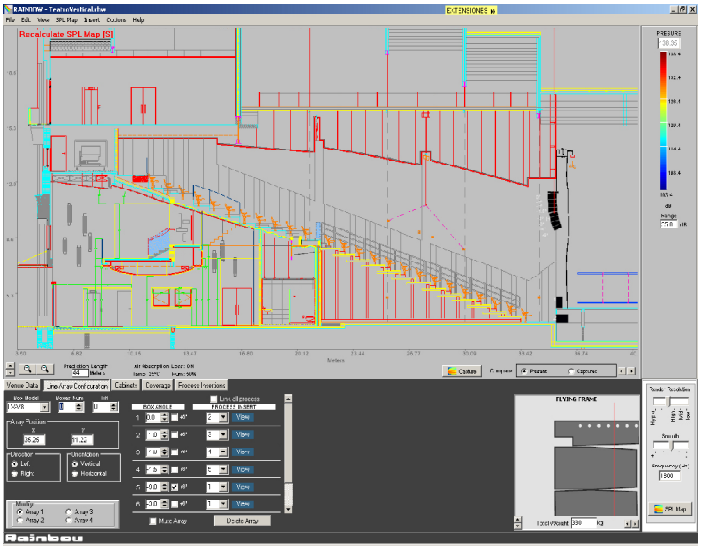
If the IP is in use, the device will respond to the Ping, and we will obtain this information:


C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\Sala>ping 192.168.2.101
Pinging 192.168.2.101 with 32 bytes of data:
Reply from 192.168.2.101: bytes=32 time=5ms TTL=64
Reply from 192.168.2.101: bytes=32 time<1ms TTL=64
Reply from 192.168.2.101: bytes=32 time<1ms TTL=64
Reply from 192.168.2.101: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.2.101:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 5ms, Average = 1ms
C:\Documents and Settings\Sala>_

You now have the Cabinets working in the ETHERNET Network Enviroment.

RAINBOW – ACOUSTICAL PREDICTION SOFTWARE

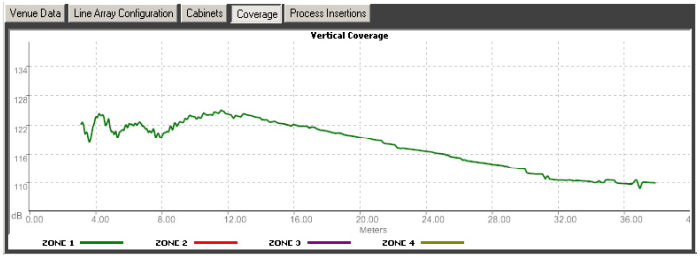
Thanks to the RAINBOW software, you will be able to “virtually” determine the acoustical response of one or various cabinets at the same time.



Based on polar response measurements, taken meticulously with a 360º coverage both vertically and horizontally, the Rainbow software is able to calculate the SPL response including the interaction between them taking into account the magnitude and phase response, in order to enable the user to correct cancellations and even to create them if the acoustical design so requires.

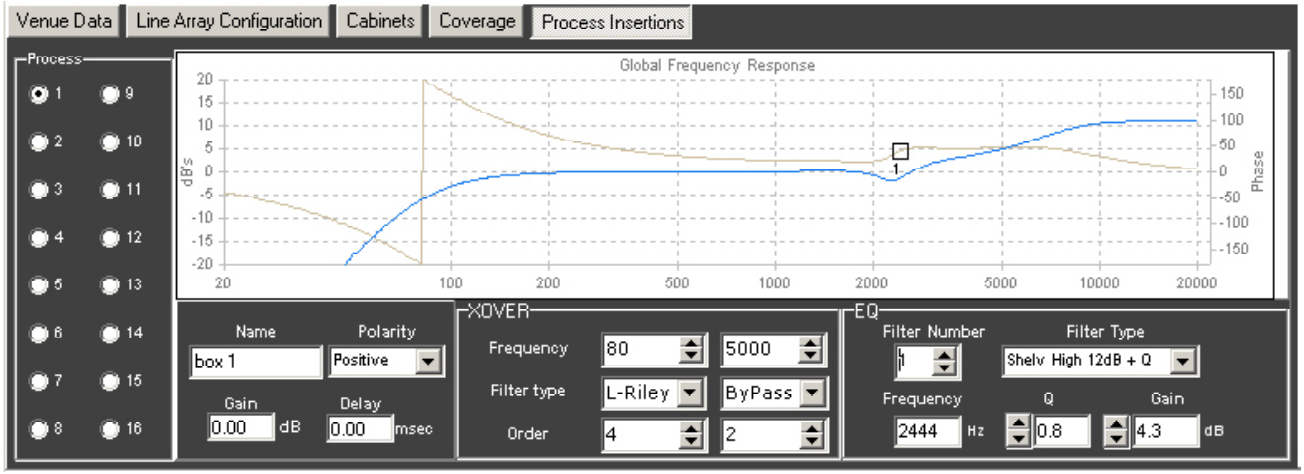
Rainbow is very easy to use and offers a very intuitive design, multitool interface and on-line updatable data base.

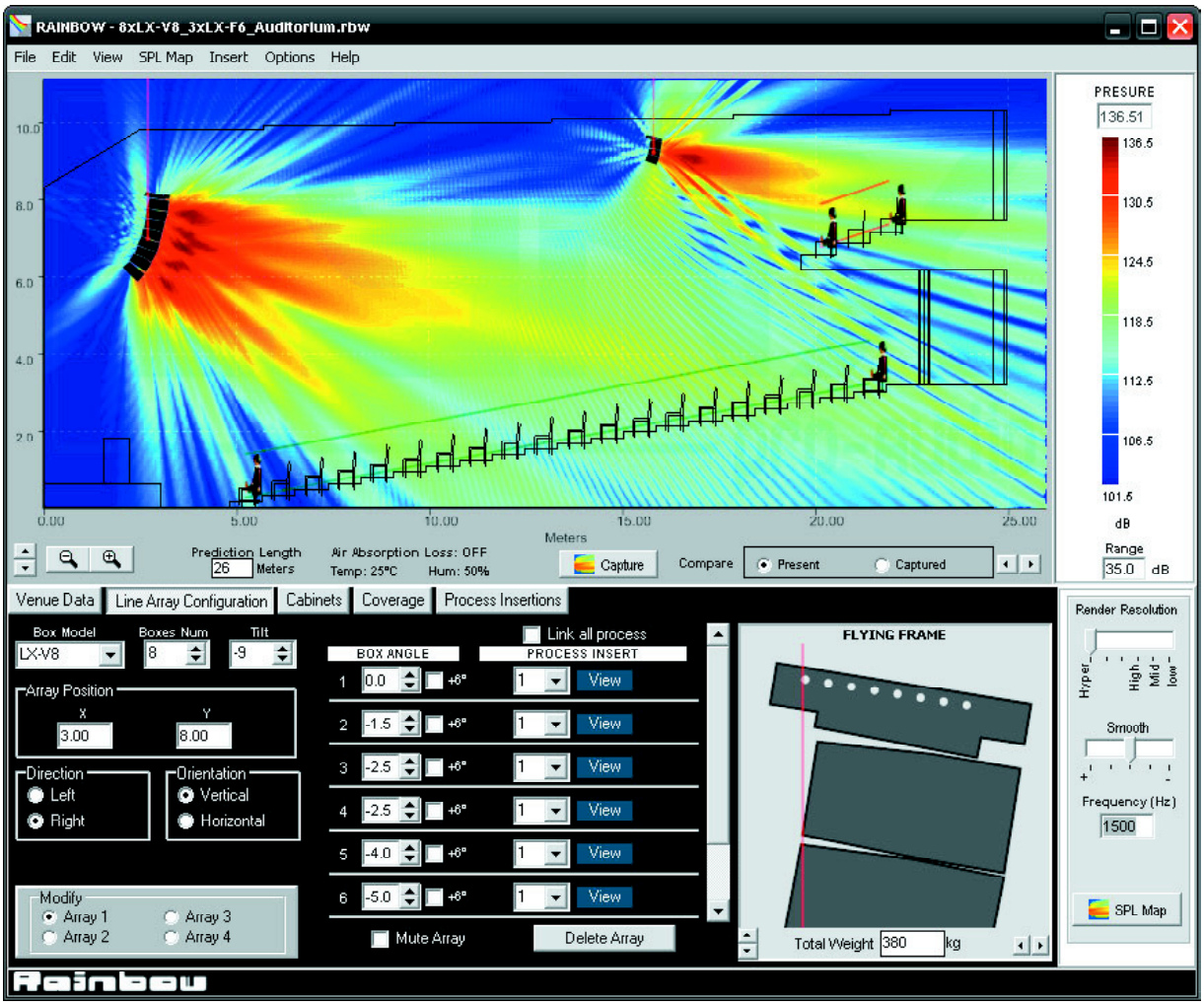
The Rainbow software has been designed by and for sound technicians. Its aim is to help installers and users of Lynx pro audio products.



This software is able to import WMF Vector Files with technical drawings and insert them directly into the prediction window and thus enabling real measurement predictions.

This also helps to determine dead zones and obtain the maximum performance from each of the cabinets installed.





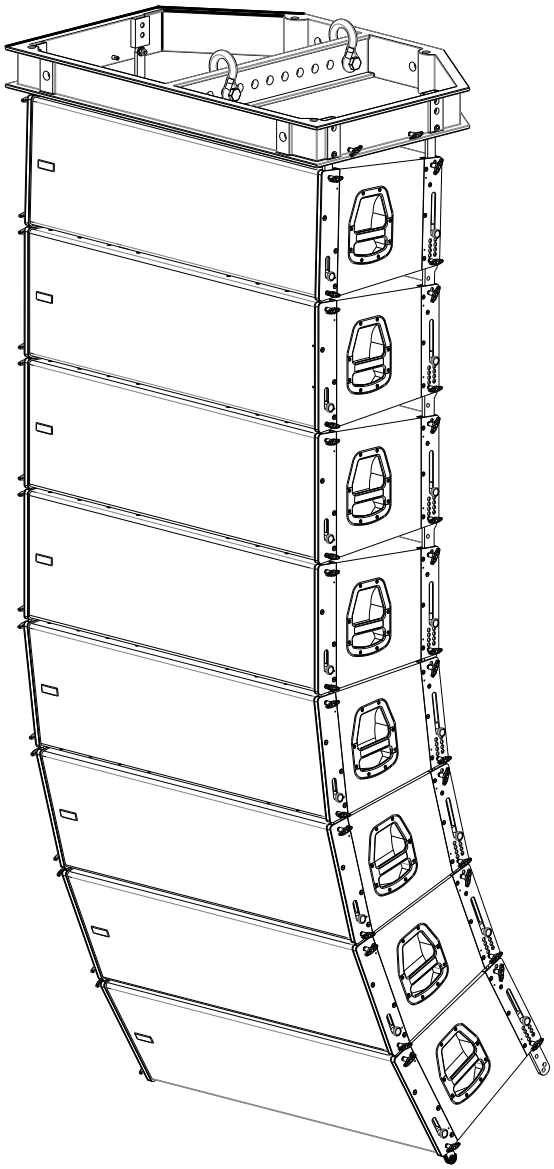
Features

The RAINBOW acoustical prediction software allows among other things:

- Prediction up to 4 LINE ARRAYS of 24 cabinets each simultaneously, together with multiple points with cabinets
- Flying points information according to the inclination of the cabinets
- Weight calculation of the different systems
- Sub-bass simulation (for instance to achieve cardiod configurations)
- Orientation of cabinets (Horizontal/vertical)
- Throw Direction of cabinets (right/ left)
- Individual delay per cabinet/system
- Polarity selection for each cabinet
- Up to 40 process insertions with Equalization and CrossOver assignable per cabinet.
- Simulation of the Air absorption sound loss with the distance
- SPL Pressure information
- Distance measurement
- Import of CAD files
- Up to 4 audience or hearing zones
- Coverage curves on the hearing zones.
- Export of SPL Map and coverage curves on jpg or bmp format
- Print project report (SPL prediction, flying points, weights, cabinet inclination, polarities, process aplied, EQ Curves…)

LYNX V12 FLYING HARDWARE, SV-LXV12

For a correct and safe Flying hardware usage please observe the technical data. Never exceed the maximum load capacities and always follow the usage conditions indicated in this manual.



The maximum number of cabinets that can be hung by the Flying hardware is 24. The maximum load capacity of the flying hardware is 2.000 Kg (including cable connection).

SAFETY PRECAUTIONS

ORIGINAL

To fix the cabinets to the Flying Frame always use the pins supplied with the equipment. Do not use different bolts etc.

To hang the hoists, use the hooks supplied with the flying frame **SVLX-V12**. In case of failure, the link system used should be capable of supporting the total weight of the complete system.

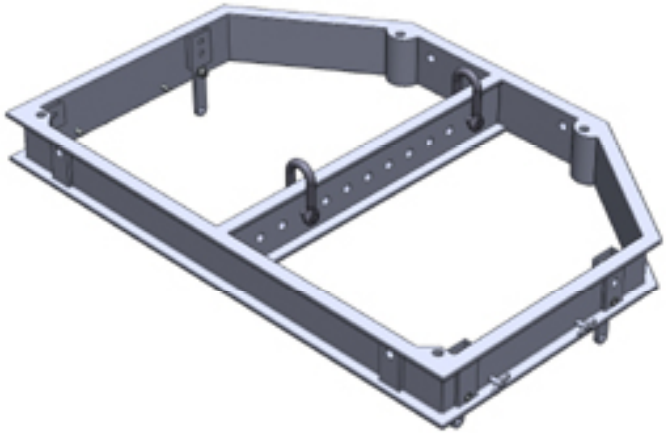
If the Lynx V12 is installed outdoors check that the support structure will be stable against the wind strength. If the Lynx is used outdoors secure it with cable to avoid pendular movement.

Do not stand underneath the system.

FLYING FRAME SV-LXV12

The Lynx V12 system is equipped with a solid and precise flying frame (ref.:SV-LXV12) made of aluminium. This frame can hold up to 24 cabinets in Lineal array and allows you to adjust its inclinatiion, with adjustable angles between 0º to 8.5º with increases of 0.5º.

SV-LXV12 hung all the acoustic cabinets. The first cabinet is fixed to the Flying frame and then each cabinet is fixed to the following and previous one, being all of them of beneath the other correspondingly.

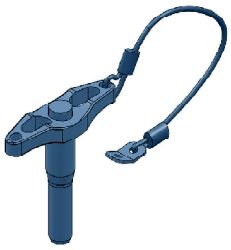


SV-LXV12

To hang the system with hoists you can use the shackles GS-6,5. If you are using an alternative linking system it must be able to support 2.000 Kg with a security margin of 5.

The fixation of the lateral plates with the frame and the rest of cabinets is carried out with special steel pins (diam.10mm), with 60KN shearing resistance.

GS-6,5

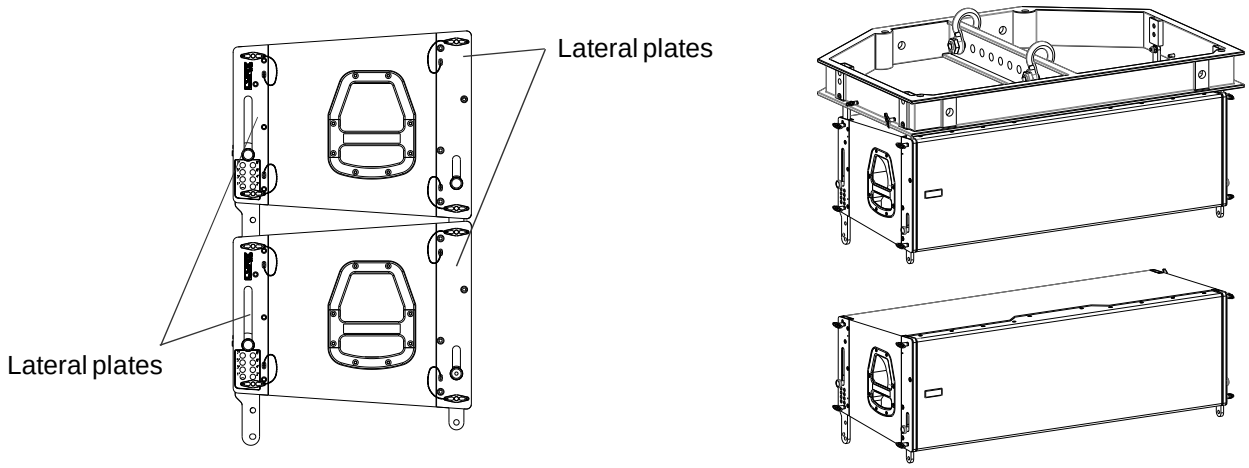


BALL-PSR12

Note: If you are using an alternative linking system to GS-6,5 then it must be able to support 2.000 Kg with a security margin of 5.

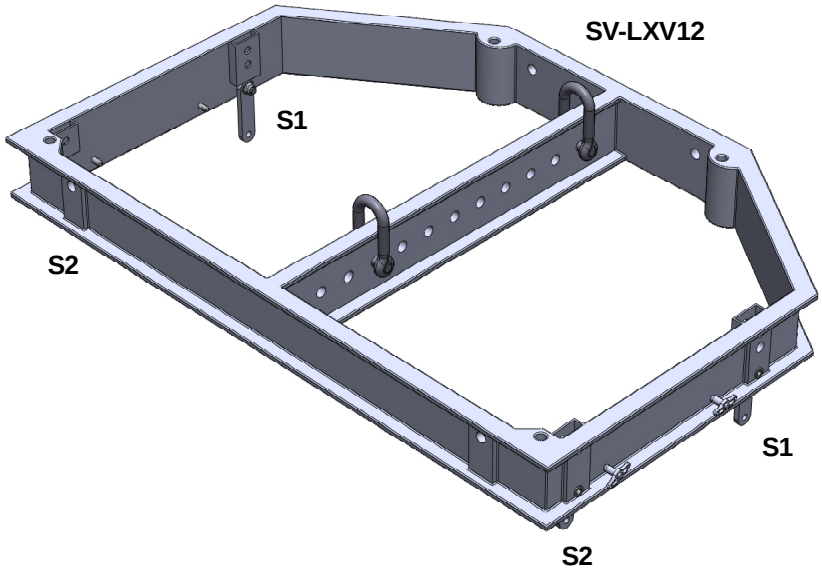
All our products are put through rigorous tests and quality controls. We guarantee the characteristics described here within and their quality against any fabrication defect. The user loses all rights, if any modification to the product is carried out, over exceeding the loading capacities or does not correctly install the system using all the pins in their correct positions.

The cabinets are supported via 4 points thanks to 4 lateral plates incorporated in each cabinet (2 per side).



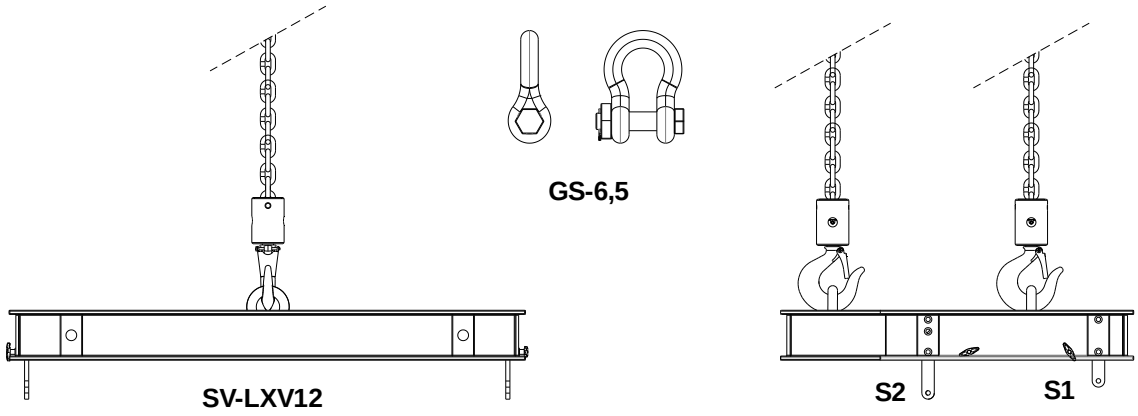
The lateral plates are fixed to the cabinet with M-6 screws which are also internally fixed for extra strength. The construction materials are steel profile DIN 2394 and steel ST-42. External finish is made with black satin polyester.

The flying frame built-in 4 steel pieces (one per each cabinet plate). There are 2 pieces S1 at the front and 2 pieces S2 at the rear. These steel pieces, in combination with the lateral plates of the cabinet, enable the first LX-V12 unit to be fixed to the flying frame.



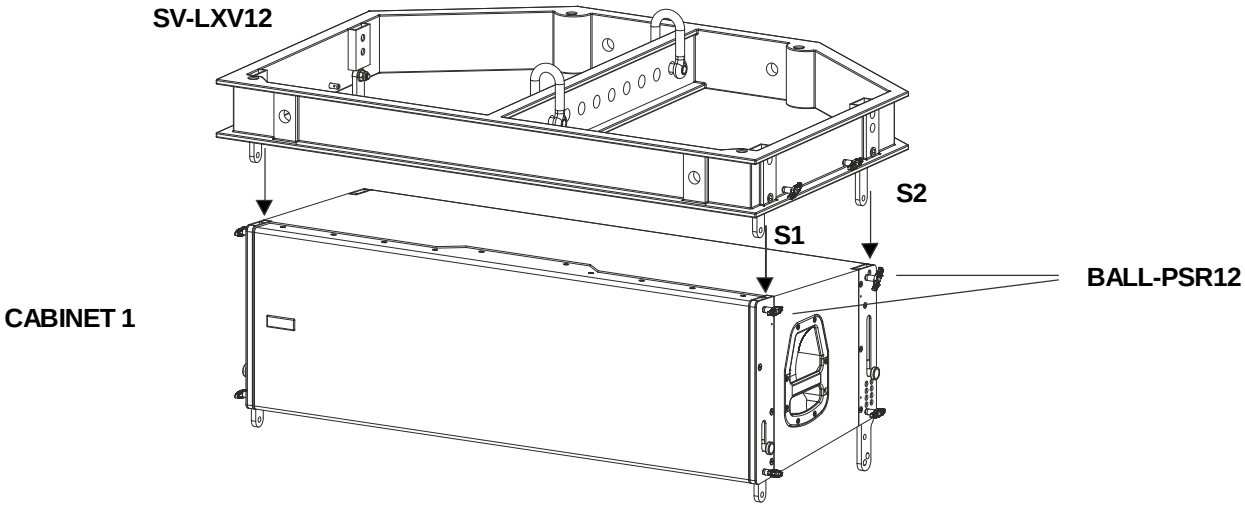
ASSEMBLY OF THE FLYING FRAME

Fix the shackles GS-6,5 to the elevation system. Place the shackles in position so that when the system is lifted it raises correctly and achieves maximum system orientation.

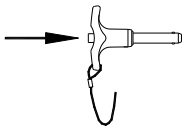


Once the shackles GS-6,5 are fixed to the lifting system with the flying frame SVLX-V12, you have to fix the flying frame on to the first LX-V12 cabinet. Fit the 4 steel pieces **S1** and **S2** in the 4 upper internal plates of the cabinet.

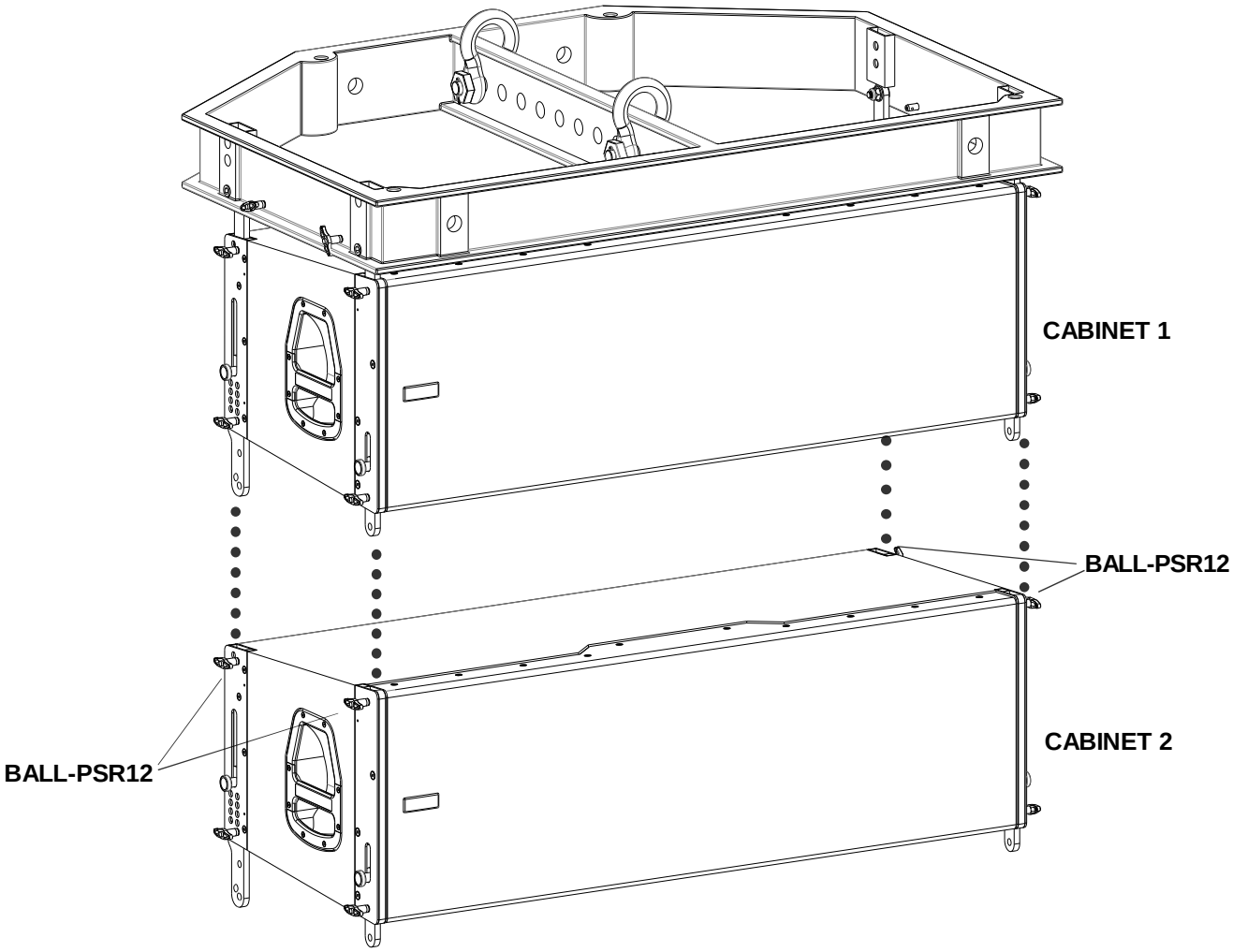
Remove the upper pins BALL-PSR12 from the cabinet 1. Then insert the link pieces **S1** and **S2** from the flying frame into the lateral steel plates slots of cabinet 1. Insert the pins BALL-PSR12 to fix the frame to the cabinet.



To extract or fix the pins it is necessary to press the central button of the pin.



Now cabinet 1 is fixed and secured on the Flying Frame and we can add more cabinets (up to 24).



Remove the upper pins BALL-PSR12 from the cabinet 2. Select the degree inlcination between cabinet 1 and cabinet 2 (see next page). Then insert the link pieces from the cabinet 1 into the lateral steel plates slots of cabinet 2. Insert the pins BALL-PSR12 again and now cabinet 2 is fixed to cabinet 1 with the corresponding inclination degree.

Repeat the same process for the remaining cabinets until all required cabinets are assembled in vertical array.

Note: Ensure all pins on all cabinets are inserted correctly and fully in their corresponding holes.

ASSEMBLY AND ANGULATION OF LX-V12 CABINETS

The LX-V12 is easy to install. The Rainbow software provides all the necessary information to mount the array cabinets with the required angles to get the calculated coverage and pressure.

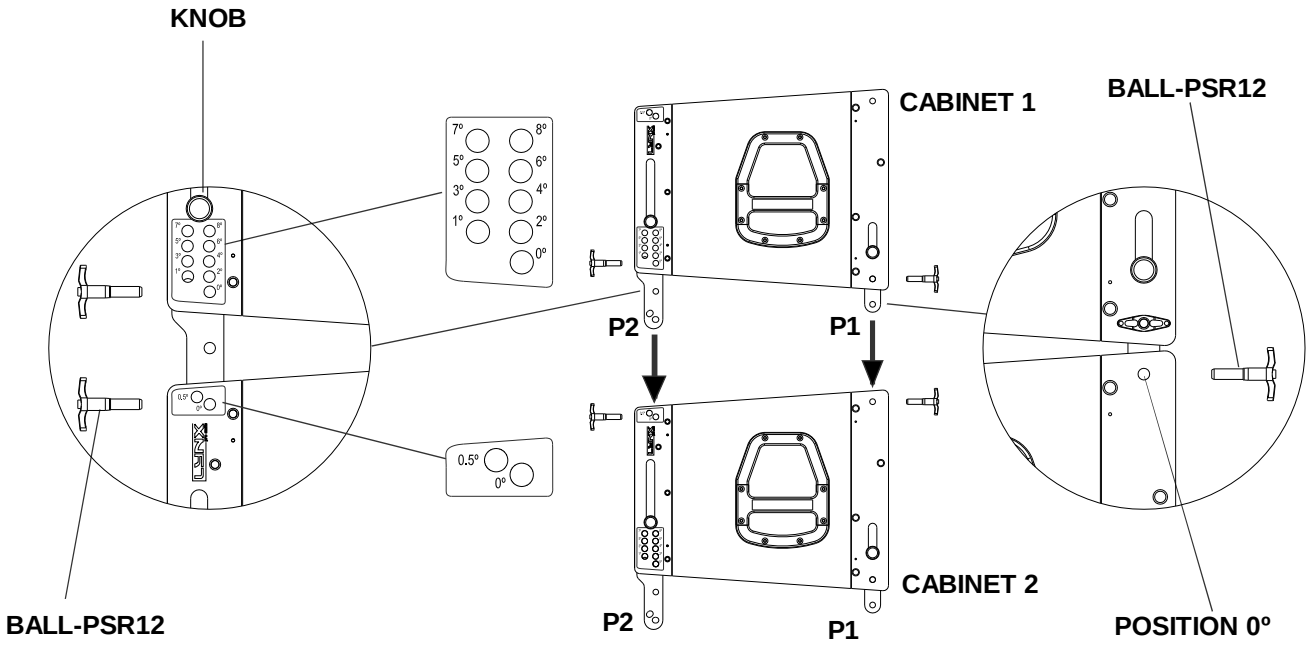
The cabinets can be placed with variable angulation between 0º and 8.5º, with increases of 0.5º. Once the angle has been determined for each of the cabinets, you have to set up the link pieces P2 in order to achieve this intercabinet angle.

Place steel piece **P2** by moving knob so that the pin BALL-PSR can be inserted on each side in the necessary hole with the determined degree for cabinet 2.

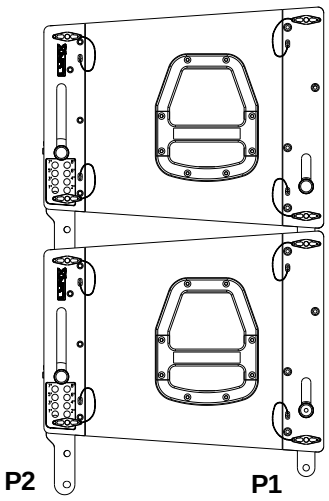
Removed the pins BALL-PSR12 located into the link pieces P1 and P2 at the bottom of cabinet 1. Select the intercabinet angle between the cabinet and the next one by moving the knob of P2 in order to choose the angle. Then introduce the pins in the hole which corresponds to the angle desired.

Once the link pieces P1 and P2 of cabinet 1 are in the correct position then remove the upper pins BALL-PSR12 from the cabinet 2 and insert the link pieces **P1** and **P2** from cabinet 1 into the lateral steel plates slots of cabinet 2 (see drawing on previous page). Insert the pins BALL-PSR12 again when the relevant holes coincide.

Now cabinet 2 is fixed to cabinet 1 with the corresponding inclination degree. Repeat the same process for the remaining cabinets until all required cabinets are assembled in vertical array.

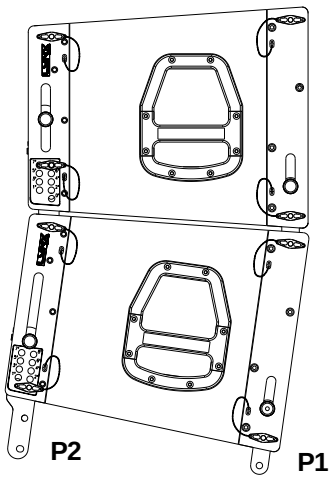


If all the cabinets are already linked and you want to modify the intercabinet angle you can do it easily when the array is stacked on the floor. Just use the help of the lifting system to hang the cabinets during the operation.Link the array to the flying frame, and fix the frame to the lifting system with the array staying on the floor. Simply remove the pins located into the rear link pieces P2 of the cabinet to be modified. It is not necessary to remove the pins of the frontal link pieces P1. Once the 2 pins are removed then lightly descend or lift the array using the lifting system. Just descend or lift until you can change the intercabinet angle by moving the knob of P2. Once the new angle is selected and the pins are inserted into the relevant holes of the upper cabinet then remove the pins of the cabinet following cabinet and use the lifting system to lightly lift or descend the array until the link piece P2 is inserted into the following cabinet. Insert the pins again to lock this position and repeat the same process with all the cabinets you want to modify.



0º	0.5º
1º	1.5º
2º	2.5º
3º	3.5º
4º	4.5º
5º	5.5º
6º	6.5º
7º	7.5º
8º	8.5º

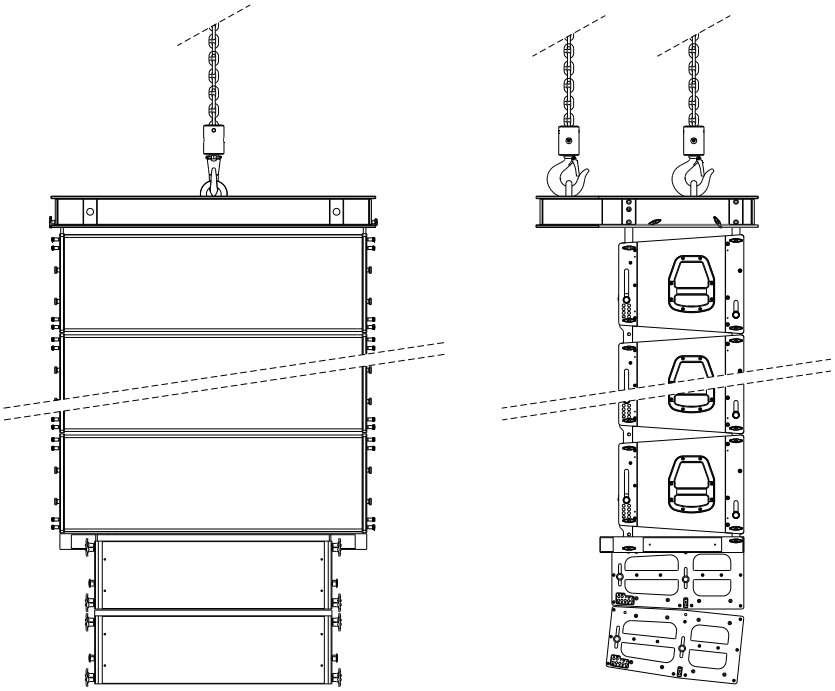
Angulation +8.5º



The maximum number of cabinets that can be hung by the Flying hardware is 24. This amounts to a total load (including cable connection) of 2.000 kg.

USING LX-V12 WITH LX-V8

With the V12 system you can build a block comprising other LX Series products. For example, the LX-V12 is easily deployed with the LX-V8 cabinets using the Flying adaptor SV-LXV12/8



MAINTENANCE

Carry out at least once a year a check of all the components in the flying frame.

With all the pins the ball security should work correctly. Do not remove the pins without pressing the central button.

The screws which hold the link pieces for the Flying Support are in perfect condition and correctly fastened with the bolts.

Only use original spare parts to guarantee continual security.
The user loses all guarantee rights if un-original spare parts are used or any modification is carried out to the product.

To request any spare part please indicate the reference number.

USING LX-V12 WITH SUBWOOFERS

The LX-V12 will provide full bandwidth frequency response down to 55Hz. The number of cabines (height of the array) will determine the total SPL available. If higher SPL is needed then subwoofers should be used. Lynx subwoofers such as LX-318C or LX-218S can extend the system response increasing the punch in the lowest frequencies. The ideal ratio of LX-V12 cabinets to subwoofers depends on the configuration of the array but for most applications two LX-V12 for each subwoofer will offer very good results.

LX-318HC

LX-218S

The LX-218S subwoofer extends the V12 system frequency response to 35Hz offering an exceptional power to size ratio, high damping factor and low distortion with a perfectly flat response from 35Hz to 125Hz.This is a high power, front loaded, sub-bass cabinet with two 18" (4" voice coil) low frequency neodymium transducers with nomex cones and suspension in direct radiation configuration. The transducers have ventilated voice coil and magnet circuit for improved heat dissipation. The system is powered with a total of 3000W of class D amplification and each cabinet has a DSP integrated. Other features include temperature sensor, fan speed control, inclinometer, Ethernet options and more.

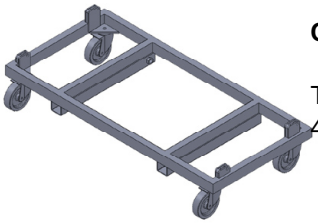
The LX-318C is the ideal combination where low frequency reinforcement is required for the LX-V12. The LX-318C subwoofer extends the V12 system frequency response to 32Hz.This is an ultra high power, cardiod, sub-bass cabinet with three 18" low frequency neodymium transducers with carbon fiber reinforced, straight ribbed cones and Double Silicon Spider (DSS) technology delivering extremely low distortion. The LX-318C cabinet is not a conventional cardiod but a '2 in 1'. Because of our sophisticated integrated processor the user can select between omnidirectional or cardiod coverage, activating the rear speaker aswell as selecting the rear frequency they most want to cancel, increasing the front pressure and directivity and ensuring that rear sound does not spill on to the stage behind the sub-bass.

The transducer cones are weather protected for outdoor use and optimised air flow reduces heat dissipation increasing power handling and lowering the power compression figure. Voice coil technology employs 2 layers of copper clad aluminium wire with triple roll, polycotton suspension. The system is powered with a total of 4200W of class D amplification with PFC (Power Factor Correction) and each cabinet has a DSP integrated.

All LX cabinets have been optimized with internal DSP presets. When most Lynx Pro Audio loudspeakers are used together these set up configurations provide the best acoustical results.

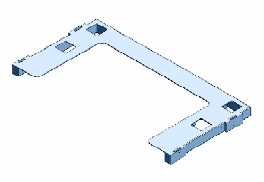
ACCESSORIES

The Lynx V12 system has at its disposal a variety of practical accessories to help use the system in a number of applications.



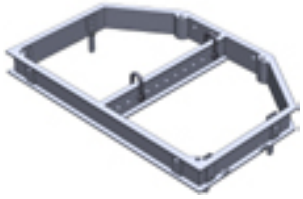
CA-LXV12

Transport dolly for up to 4 LX-V12



SV-LXV12/8

Connection system to link LX-V12 and LX-V8 cabinets

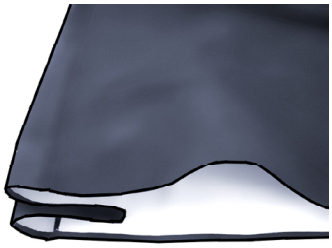


SV-LXV12

Flying frame for up to 24 cabinets LX-V12

GS-12

Steel shackle 1200 kg

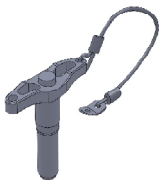


FD-4LXV12

Nylon protection cover for 4 cabinets LX-V12

FD-LXV12NL

Rain cover for the back pannel of LX-V12



BALL-PSR12

Ball Pin with thread

LYNX GUARANTEE

Lynx pro audio products are guaranteed against every kind of manufacturing fault 2 year after the date of sale. When products are under guarantee, the repairing and the free supplying of the device parts in order to correct any kind of defect are guaranteed by Lynx Pro Audio S.L.. In the case that the product could not be returned to the factory for checking and repairing, Lynx Pro Audio S.L. would supply all the necessary parts.

Lynx Pro Audio S.L. is not responsible for any damage or defect caused during the transport or caused by an undue or improper handling y a non-authorized person during the life of this guarantee.

All our products undergo rigorous tests and quality controls. We guarantee the characteristics described here within and their quality against any fabrication defect.

The user loses all warranty rights if he incorporates or carries out any modification to the product, if he uses it outside of the stated safe working loads or does not secure the system properly using all the pins in their corresponding holes.

For any question regarding the product, the user must quote the model and serial number.

CE

DECLARATION OF CONFORMITY

LYNX Pro Audio S.L.
Calle 7 - Pol. Ind. Picassent
E-46220 Picassent (Valencia)

Lynx Pro Audio S.L. declares that LX-V12 cabinets are in conformity with the following EC directives:

Low Voltage Directive	2006/95/EC
Electromagnetic Compatibility EMC	2004/108/EC
RoHS Directive	2002/95/EC

In accordance with Harmonized European Norms:

EN 60065:2002	Audio, video and similar electronic apparatus. Safety requirements
EN 55103-1:1996	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 55103-2:1996	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

WEEE Declaration: Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime. Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product please contact Lynx Pro Audio S.L.

LYNX pro-audio